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10/740,261	12/18/2003	Osman Polat	9475	1913

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THE PROCTER & GAMBLE COMPANY  
INTELLECTUAL PROPERTY DIVISION  
WINTON HILL BUSINESS CENTER - BOX 161  
6110 CENTER HILL AVENUE  
CINCINNATI, OH 45224

EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/740,261

Applicant(s)

POLAT ET AL.

Examiner

Andrew T. Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-15, 17-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-15, 17-20 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/9/04 & 12/18/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/18/2006 has been entered.

### ***Response to Amendment***

2. The examiner has withdrawn the rejections of claim 21 based on the cancellation of claim 21.

### ***Claim Objections***

3. Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 1 already establishes that the layer including the mixture of short cellulosic fibers and synthetic fibers comprises regions of different basis weight.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-6, 8-15, 17-20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The specification only mentions "basis weight" in the last line on page 10 and in the Examples 1-3. Of those locations, the specification only mentions regions of different basis weight in the last line on page 10 wherein the specification discloses that the fibrous structure can be formed with "micro-regions of different basis weight." The specification is completely silent regarding the micro-regions of different basis weight being in a non-random pattern.

6. Claims 1-6, 8-15, 17-20 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification only mentions "basis weight" in the last line on page 10 and in the Examples 1-3. Of those locations, the specification only mentions regions of different basis weight in the last line on page 10 wherein the specification discloses that the fibrous structure can be formed with "micro-regions of different basis weight." The specification not only fails to enable one skilled

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in the art to which it pertains, or with which it is most nearly connected, to make and/or use a fibrous structure with regions of different basis weight in a non-random pattern, the specification fails to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use a fibrous structure with just regions of different basis weight. The specification is completely silent regarding how to make said "micro-regions of different basis weight."

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 5-6, 17-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan et al. (hereinafter referred to as Trokhan) in view of anyone of USPN 5,350,624 to Georger et al. (hereinafter referred to as Georger) or USPN 6,617,490 to Chen et al. (hereinafter referred to as Chen).

Regarding claims 1, 5-6, 17-20 and 22, Trokhan discloses a fibrous structure comprising at least two layers wherein at least one of the layers of the structure includes long (greater than about 2 mm) cellulosic fibers and at least one of the layers includes short (less than about 2 mm) cellulosic fibers (see entire document including column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers (column 6, lines 48-52), but Trokhan does not mention the arrangement of the synthetic fibers in relation to the cellulosic fibers. Trokhan is silent with regards to specific arrangement, therefore, it would have been necessary and thus obvious to look to the prior art for conventional arrangement of cellulosic and synthetic fibers. Georger and Chen each provide this conventional teaching showing that it is known in the art to arrange cellulosic fibers and synthetic fibers with regions of different basis weight in a non-random pattern, to provide capillary pressure gradients for fluid transportation, to increase tensile strength, and/or to improve abrasion resistance (see entire documents including the paragraph bridging columns 1 and 2 of Georger and column 8, lines 23-36 of Chen).

Georger discloses a nonwoven structure composed of synthetic fibers and cellulosic fibers (column 4, lines 29-50), wherein the structure comprises a first exterior surface, a second exterior surface, and an interior portion (paragraph bridging columns 3 and 4). Georger teaches the use of regions with different basis weight in a non-random pattern wherein the synthetic fibers are present in a greater amount (at least 60%) in each of the exterior surfaces and present in a lesser amount (less than about 40%) in the interior portion (paragraph bridging columns 3 and 4 and column 4, lines 29-50). Georger clearly discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer in a non-random pattern.

Chen discloses that a particularly useful composite material is a single layer comprising a mixture of pulp fibers and polymer, "such as the materials disclosed in...U.S. Pat No. 5,350,624 to Georger" (paragraph bridging columns 23 and 24). As explained in the above paragraph,

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Georger clearly discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer with regions of different basis weight in a non-random pattern. Therefore, due at least to the teachings of Georger, Chen discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer with regions of different basis weight in a non-random pattern.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the cellulosic and synthetic fibers in a non-random pattern, as taught by Georger or Chen, to provide capillary pressure gradients for fluid transportation, to increase tensile strength, and/or to improve abrasion resistance and motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 5, Trokhan discloses that the short cellulosic fibers are hardwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 6, Trokhan discloses that the long cellulosic fibers are softwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 17, Trokhan discloses that the long cellulosic fibers are generally randomly distributed in at least one layer of the fibrous structure (Figures 1-3).

Regarding claim 18, Trokhan discloses that the fibrous structure may be creped, uncreped or embossed (column 6, lines 32-37 and column 9, lines 48-58).

Regarding claim 19, Trokhan discloses that the fibrous structure may be combined with a separate structure to form a multi-ply article (column 6, lines 32-37 and column 13, line 60 through column 14, line 33).

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Regarding claim 20, Trokhan discloses that a latex may be disposed on at least a portion of the unitary structure (column 10, lines 5-21).

Regarding claim 22, it is further noted that Trokhan discloses that a neat silicone aqueous solution may be used to deposit the polysiloxane compound and that the silicone would not be evenly distributed on the structure (column 9, lines 30-39), the fibrous structure would be formed with micro-regions of different basis weight (support for the claimed limitation is only found on page 10, line 33 of the current specification wherein the specification discloses that the fibrous structure can be formed with "micro-regions of different basis weight."). In addition, considering that the structure disclosed by the applied prior art is not perfectly homogenous, the structure necessarily includes micro-regions of different basis weight.

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5-6, 17-20 and 22 above, and further in view of USPN 6,548,731 to Mizutani et al. (hereinafter referred to as Mizutani).

Regarding claims 2 and 3, Trokhan is silent with regards to a specific fiber length ratio between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Mizutani provides this conventional teaching showing that it is known in the absorbent product art to use cellulosic fibers that are shorter than the synthetic fibers resulting in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15). Mizutani mentions a synthetic fiber to short fiber ratio of between about 1 and about 13 (column 4, lines 50-65). Therefore, it would have been obvious to one having



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ordinary skill in the art at the time the invention was made to make the mixture with a synthetic fiber to short fiber ratio of 1 to 13, because the absorbent article would pass a large amount of liquid thus keeping the surface dry while not having a wet feel, and motivated by the expectation of successfully practicing the invention of Trokhan.

10. Claims 4, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5-6, 17-20 and 22 above, and further in view of WO 93/14267 to Manning.

Regarding claim 4, Trokhan is silent with regards to a PTP factor (diameter ratio) between the synthetic fibers and the short fibers; therefore, it would have been necessary and thus obvious to look to the prior art for conventional PTP factors. Manning provides this conventional teaching showing that it is known in the cellulosic and synthetic fiber mixture art to use synthetic and cellulosic fibers with a PTP factor of greater than about 0.75. Manning mentions synthetic fibers with a diameter of about 0.5 to 15 denier and cellulosic fibers with a diameter of 1 to 30 denier (see entire document including page 7, lines 8-24 and page 8, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PTP factor of greater than about 0.75, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 8, Trokhan discloses that the short cellulosic fibers may have a length weighted average fiber length of less than about 1 mm (column 13, lines 25-42), but Trokhan does not mention an average cellulosic fiber width. Trokhan is silent with regards to an average cellulosic fiber width, therefore, it would have been necessary and thus obvious to look to the

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prior art for conventional cellulosic fiber widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than about 18 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the short cellulosic fibers with an average fiber width of less than about 18 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 9, Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Manning provides this conventional teaching showing that it is known in the absorbent product art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers (page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 10, Trokhan discloses that the long cellulosic fibers may have a length weighted average fiber length of greater than about 2 mm (column 13, lines 25-42), but Trokhan does not mention the average cellulosic fiber width. Trokhan is silent with regards to specific cellulosic fiber widths, therefore, it would have been necessary and thus obvious to look to the prior art for conventional widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than 50 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one

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having ordinary skill in the art at the time the invention was made to make the long cellulosic fibers with an average fiber width of less than 50 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 11 and 12, Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers, but Trokhan does not specifically mention bicomponent synthetic fibers. Manning discloses that it is known in the art to use bicomponent synthetic fibers to improve adhesion between fibers (see page 6, lines 11-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the synthetic fibers in any suitable known fiber configuration, such a bicomponent fiber configuration, as taught by Manning, because bicomponent fibers improve adhesion between the fibers and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

Regarding claim 12, Manning discloses that the bicomponent fibers may be polyester and/or polyolefin based (see page 7, lines 6-15).

Regarding claim 15, Manning discloses that the bicomponent fibers are heat fused to adhere the fibers (see page 8, line 17 to page 9, line 9).

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5-6, 17-20 and 22 above, and further in view of USPN 4,202,959 to Henbest et al. (hereinafter referred to as Henbest).

Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic

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fiber diameters and lengths. Henbest provides this conventional teaching showing that it is known in the art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm with an average fiber width of not more than 25 mm (see entire document including column 2, lines 13-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, as taught by Henbest, motivated by the expectation of successfully practicing the invention of Trokhan.

12. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of anyone of USPN 5,350,624 to Georger or USPN 6,617,490 to Chen as applied to claims 1, 5-6, 17-20 and 22 above, and further in view of anyone of USPN 5,405,499 to Vinson or USPN 5,409,572 to Kershaw et al. (hereinafter referred to as Kershaw).

Trokhan is silent with regards to specific coarseness values, therefore, it would have been necessary and thus obvious to look to the prior art for conventional coarseness values. Vinson and Kershaw each provide this conventional teaching showing that it is known in the art to use a low coarseness, such as less than about 25mg/100m, because the softness of the product relates to the coarseness and a softer product is desired (see entire documents including column 1, lines 24-60 of Vinson and column 3, line 65 through column 4, line 31 of Kershaw). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture of short cellulosic fibers and synthetic fibers with a coarseness value of less than about 25mg/100m motivated by the expectation of successfully practicing the invention of Trokhan.

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13. Claims 1-3, 5-6, 17-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani.

Regarding claims 1-3, 5-6, 17-20 and 22, Trokhan discloses a fibrous structure comprising at least two layers wherein at least one of the layers of the structure includes long (greater than about 2 mm) cellulosic fibers and at least one of the layers includes short (less than about 2 mm) cellulosic fibers (see entire document including column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers (column 6, lines 48-52), but Trokhan does not mention the arrangement of the synthetic fibers in relation to the cellulosic fibers. Trokhan is silent with regards to specific arrangement, therefore, it would have been necessary and thus obvious to look to the prior art for conventional arrangement of cellulosic and synthetic fibers. Mizutani provides this conventional teaching showing that it is known in the art to arrange cellulosic fibers and synthetic fibers with regions of different basis weight in a non-random pattern to result in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15, column 6, lines 47-59, and Figure 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the cellulosic and synthetic fibers with regions of different basis weight in a non-random pattern, as taught by Mizutani, to result in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel and motivated by the expectation of successfully practicing the invention of Trokhan.

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Regarding claims 2 and 3, Trokhan is silent with regards to a specific fiber length ratio between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional ratios. Mizutani provides this conventional teaching showing that it is known in the absorbent product art to use cellulosic fibers that are shorter than the synthetic fibers resulting in an absorbent article that passes a large amount of liquid so as to keep the surface dry while not having a wet feel (see entire document including column 1, lines 9-15). Mizutani mentions a synthetic fiber to short fiber ratio of between about 1 and about 13 (column 4, lines 50-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture with a synthetic fiber to short fiber ratio of 1 to 13, because the absorbent article would pass a large amount of liquid thus keeping the surface dry while not having a wet feel, and motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 5, Trokhan discloses that the short cellulosic fibers are hardwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 6, Trokhan discloses that the long cellulosic fibers are softwood fibers (column 6, lines 19-68, column 12, lines 31-65, and column 13, lines 25-67).

Regarding claim 17, Trokhan discloses that the long cellulosic fibers are generally randomly distributed in at least one layer of the fibrous structure (Figures 1-3).

Regarding claim 18, Trokhan discloses that the fibrous structure may be creped, uncreped or embossed (column 6, lines 32-37 and column 9, lines 48-58).

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Regarding claim 19, Trokhan discloses that the fibrous structure may be combined with a separate structure to form a multi-ply article (column 6, lines 32-37 and column 13, line 60 through column 14, line 33).

Regarding claim 20, Trokhan discloses that a latex may be disposed on at least a portion of the unitary structure (column 10, lines 5-21).

Regarding claim 22, it is further noted that Trokhan discloses that a neat silicone aqueous solution may be used to deposit the polysiloxane compound and that the silicone would not be evenly distributed on the structure (column 9, lines 30-39), the fibrous structure would be formed with micro-regions of different basis weight (support for the claimed limitation is only found on page 10, line 33 of the current specification wherein the specification discloses that the fibrous structure can be formed with "micro-regions of different basis weight."). In addition, considering that the structure disclosed by the applied prior art is not perfectly homogenous, the structure necessarily includes micro-regions of different basis weight.

14. Claims 4, 8-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5-6, 17-20 and 22 above, and further in view of WO 93/14267 to Manning.

Regarding claim 4, Trokhan is silent with regards to a PTP factor (diameter ratio) between the synthetic fibers and the short fibers, therefore, it would have been necessary and thus obvious to look to the prior art for conventional PTP factors. Manning provides this conventional teaching showing that it is known in the cellulosic and synthetic fiber mixture art to use synthetic and cellulosic fibers with a PTP factor of greater than about 0.75. Manning mentions synthetic fibers with a diameter of about 0.5 to 15 denier and cellulosic fibers with a

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diameter of 1 to 30 denier (see entire document including page 7, lines 8-24 and page 8, lines 1-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a PTP factor of greater than 0.75, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 8, Trokhan discloses that the short cellulosic fibers may have a length weighted average fiber length of less than about 1 mm (column 13, lines 25-42), but Trokhan does not mention an average cellulosic fiber width. Trokhan is silent with regards to an average cellulosic fiber width, therefore, it would have been necessary and thus obvious to look to the prior art for conventional cellulosic fiber widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than about 18 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the short cellulosic fibers with an average fiber width of less than about 18 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 9, Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Manning provides this conventional teaching showing that it is known in the absorbent product art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers (page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted



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average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claim 10, Trokhan discloses that the long cellulosic fibers may have a length weighted average fiber length of greater than about 2 mm (column 13, lines 25-42), but Trokhan does not mention the average cellulosic fiber width. Trokhan is silent with regards to specific cellulosic fiber widths, therefore, it would have been necessary and thus obvious to look to the prior art for conventional widths. Manning provides this conventional teaching showing that it is known in the art to use cellulosic fibers with an average fiber width of less than 50 micrometers (see entire document including page 7, lines 8-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the long cellulosic fibers with an average fiber width of less than 50 micrometers motivated by the expectation of successfully practicing the invention of Trokhan.

Regarding claims 11 and 12, Trokhan discloses that synthetic fibers may be utilized in combination with the cellulosic fibers, but Trokhan does not specifically mention bicomponent synthetic fibers. Manning discloses that it is known in the art to use bicomponent synthetic fibers to improve adhesion between fibers (see page 6, lines 11-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the synthetic fibers in any suitable known fiber configuration, such a bicomponent fiber configuration, as taught by Manning, because bicomponent fibers improve adhesion between the fibers and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

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Regarding claim 12, Manning discloses that the bicomponent fibers may be polyester and/or polyolefin based (see page 7, lines 6-15).

Regarding claim 15, Manning discloses that the bicomponent fibers are heat fused to adhere the fibers (see page 8, line 17 to page 9, line 9).

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5-6, 17-20 and 22 above, and further in view of USPN 4,202,959 to Henbest.

Trokhan is silent with regards to the synthetic fiber diameter and length, therefore, it would have been necessary and thus obvious to look to the prior art for conventional synthetic fiber diameters and lengths. Henbest provides this conventional teaching showing that it is known in the art to use synthetic fibers with a length weighted average fiber length of more than about 2 mm with an average fiber width of not more than 25 mm (see entire document including column 2, lines 13-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use synthetic fibers with a length weighted average fiber length of more than about 2 mm and a diameter of more than about 15 micrometers, as taught by Henbest, motivated by the expectation of successfully practicing the invention of Trokhan.

16. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,538,595 to Trokhan in view of USPN 6,548,731 to Mizutani as applied to claims 1-3, 5-6, 17-20 and 22 above, and further in view of anyone of USPN 5,405,499 to Vinson or USPN 5,409,572 to Kershaw.

Trokhan is silent with regards to specific coarseness values, therefore, it would have been necessary and thus obvious to look to the prior art for conventional coarseness values. Vinson and Kershaw each provide this conventional teaching showing that it is known in the art to use a low coarseness, such as less than about 25mg/100m, because the softness of the product relates to the coarseness and a softer product is desired (see entire documents including column 1, lines 24-60 of Vinson and column 3, line 65 through column 4, line 31 of Kershaw). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mixture of short cellulosic fibers and synthetic fibers with a coarseness value of less than about 25mg/100m motivated by the expectation of successfully practicing the invention of Trokhan.

### ***Response to Arguments***

17. Applicant's arguments filed 8/18/2006 have been fully considered but they are not persuasive.

Firstly, the applicant asserts that support for the amendment to claim 1 is found in the specification at page 10, lines 30-34 and in Figures 9, 9A and 10. The examiner respectfully disagrees. The specification only mentions "basis weight" at page 10, lines 30-34 and in Examples 1-3. Of those locations, the specification only mentions regions of different basis weight at page 10, lines 30-34 wherein the specification discloses that the fibrous structure can be formed with "micro-regions of different basis weight." Firstly, Figures 9, 9A and 10 do not illustrate the claimed micro-regions of different basis weight because the specification does not teach or suggest that such regions are visible in the Figures. Secondly, although page 10, lines

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30-34 of specification discloses that the fibrous structure can be formed with “micro-regions of different basis weight,” the specification is completely silent regarding the micro-regions of different basis weight being in a non-random pattern. Further, the specification not only fails to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use a fibrous structure with regions of different basis weight in a non-random pattern, the specification fails to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use a fibrous structure with just regions of different basis weight. The specification is completely silent regarding how to make said “micro-regions of different basis weight.”

The applicant asserts that Georger does not teach or suggest disposing synthetic fibers and cellulosic fibers with regions of different basis weight in a non-random pattern, because the synthetic fibers and cellulosic fibers of Georger are allegedly in different layers. The examiner respectfully disagrees. Georger discloses a nonwoven structure composed of synthetic fibers and cellulosic fibers (column 4, lines 29-50), wherein the structure comprises a first exterior surface, a second exterior surface, and an interior portion (paragraph bridging columns 3 and 4). Georger teaches the use of a non-random pattern wherein the synthetic fibers are present in a greater amount (at least 60%) in each of the exterior surfaces and present in a lesser amount (less than about 40%) in the interior portion (paragraph bridging columns 3 and 4 and column 4, lines 29-50). Georger clearly discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer in a non-random pattern.

The applicant asserts that Chen does not teach or suggest disposing synthetic fibers

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and cellulosic fibers with regions of different basis weight in a non-random pattern, because the synthetic fibers and cellulosic fibers of Chen are allegedly in different layers. The examiner respectfully disagrees. Chen discloses that a particularly useful composite material is a single layer comprising a mixture of pulp fibers and polymer, "such as the materials disclosed in...U.S. Pat No. 5,350,624 to Georger" (paragraph bridging columns 23 and 24). As explained in the above paragraph, Georger clearly discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer in a non-random pattern. Therefore, due at least to the teachings of Georger, Chen discloses that the synthetic fibers and cellulosic fibers are present throughout the nonwoven single layer structure and that the different fibrous material is present within the single layer in a non-random pattern.

The applicant asserts that Mizutani does not teach or suggest disposing synthetic fibers and cellulosic fibers with regions of different basis weight in a non-random pattern, because the synthetic fibers and cellulosic fibers of Mizutani are allegedly in different layers. The examiner respectfully disagrees. Mizutani discloses a single layer topsheet (4) comprising an upper portion (4a) and a bottom portion (4b) (Figure 4 and column 5, lines 11-24). Mizutani teaches the use of a non-random pattern wherein the synthetic fibers (11) are present throughout the topsheet layer (4) while the short cellulosic fibers (12) are present in only the bottom portion.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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atp

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**ANDREW T. PIZIALI  
PATENT EXAMINER**